

AMENDMENTS TO THE CLAIMS

1-10. (Canceled)

11. (Currently Amended) A tool holder attachment structure, for removably securing a tool holder with a tool in a tapered attachment hole of main shaft of a machining tool, comprising:

a shank having a tapered outer perimeter surface:

said shank provided on said tool holder;

a plurality of elastic engagement pieces abutting an outer perimeter surface of said tapered outer perimeter surface of said tool holder and being elastically deformable in a radial direction during a fitting; and

a plurality of ring shaped grooves formed at said inner surface section of said attachment hole of said main shaft at a predetermined interval along an axial center of said main shaft, said plurality of ring shaped grooves and said plurality of elastic engagement pieces being arranged in an alternating manner along said axial center:

said formation of said plurality of ring shaped grooves allowing said plurality of elastic engagement pieces to be integrally formed with said main shaft;

said plurality of elastic engagement pieces disposed at an inner surface section of said tapered attachment hole of said main shaft; and

said shank in said tapered attachment hole of said main shaft and said tool holder secured to said main shaft during said fitting with said plurality of elastic engagement pieces elastically deformed in said radial direction.

12. (Canceled)

13. (Currently Amended) [[A]] The tool holder attachment structure, according to claim ~~12~~ 11, wherein: said elastic engagement pieces are sloped relative to a plane perpendicular to said axial center of said main shaft.

14. (Currently Amended) [[A]] The tool holder attachment structure, according to claim 13, wherein[[:]] toward an inner perimeter, said elastic engagement pieces are each sloped toward a wider end of a tapered shape of said attachment hole.

15. (Currently Amended) [[A]] The tool holder attachment structure, according to claim ~~12~~ 11, wherein[[:]] said elastic engagement pieces are formed parallel to a plane perpendicular to said axial center of said main shaft.

16. (Currently Amended) [[A]] The tool holder attachment structure, according to claim 14, further comprising:

a plurality of grooves extending longitudinally along said tapered attachment hole being formed at said inner surface section of said tapered attachment hole in a symmetrical arrangement relative to said axial center.

17. (Currently Amended) [[A]] The tool holder attachment structure, according to claim 11, further comprising:

an elastic flange extending radially from said tool holder abuts an outer end surface of said main shaft and elastically deforms parallel with said axial center when said tool holder is mounted on said main shaft.

18. (Currently Amended) [[A]] The tool holder attachment structure, according to claim 16, further comprising:

an elastic flange extending radially from said tool holder abuts an outer end surface of said main shaft and elastically deforms parallel with said axial center when said tool holder is mounted on said main shaft.

19. (Currently Amended) [[A]] The tool holder attachment structure, according to claim 17, further comprising:

a ring shaped groove being formed at a radially inward position on said elastic flange;
said elastic flange being formed with a ring shape; and

a ring shaped sloped groove being formed at a radially outward position on said elastic flange.

20. (Currently Amended) [[A]] The tool holder attachment structure, according to claim 11, wherein[[[:]] said plurality of elastic engagement pieces are a plurality of collar shaped members secured to said inner surface section of said tapered attachment hole of said main shaft.

21. (Currently Amended) [[A]] The tool holder attachment structure, according to claim 11, wherein[[:]] a cross section shape of said tapered attachment hole and said shank along a plane perpendicular to said axial center is a non circular shape effective to transfer a rotational torque during a use of said tool, whereby said rotational torque is transferred from said tapered attachment hole of said main shaft to said shank without using a key.

22. (Currently Amended) [[A]] The tool holder attachment structure, according to claim 16, wherein[[:]] a cross section shape of said tapered attachment hole and said shank along a plane perpendicular to said axial center forms a non circular shape effective to transfer a rotational torque during a use of said tool, whereby said rotational torque is transferred from said tapered attachment hole of said main shaft to said shank without using a key.

23. (Currently Amended) A tool holder attachment structure, for removably securing a tool holder with a tool to a main shaft of a machining tool, comprising:

at least a shank on said tool holder;

said shank having at least a tapered outer perimeter surface;

said main shaft including a tapered attachment hole;

means for elastically securing said shank in said attachment hole of said main shaft and eliminating vibration and attachment failure during a use of said machining tool and said tool holder attachment;

at least a plurality of elastic engagement pieces in said means for elastically securing;

